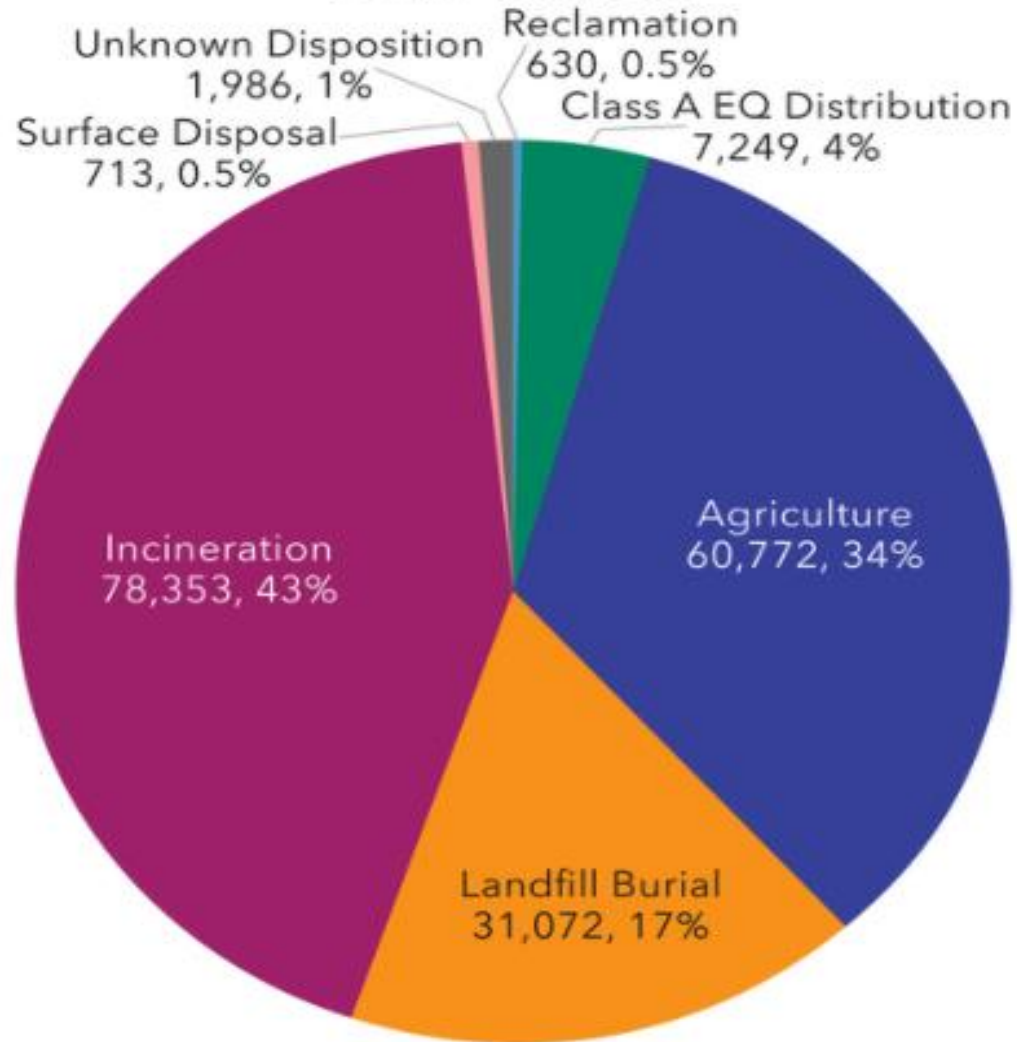


Massachusetts  
Biosolids Use & Disposal 2018  
(dry US tons, %)  
Total: 180,800



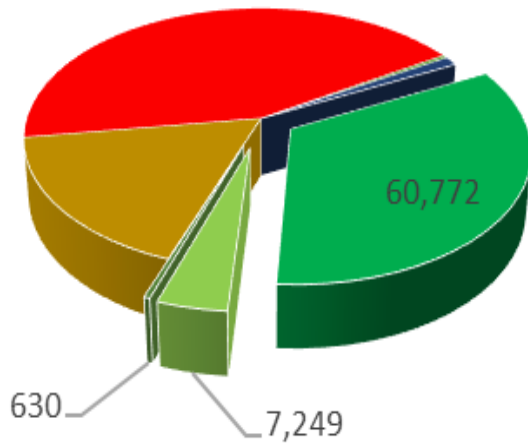
Few landfills

Less incinerators; many approaching end of useful life

Estimated 70% of wastewater solids currently going out of State (MAWEA)

# What if Massachusetts Eliminates Residuals Recycling Options?

Massachusetts Wastewater Solids Disposal  
2018, U.S. dry tons

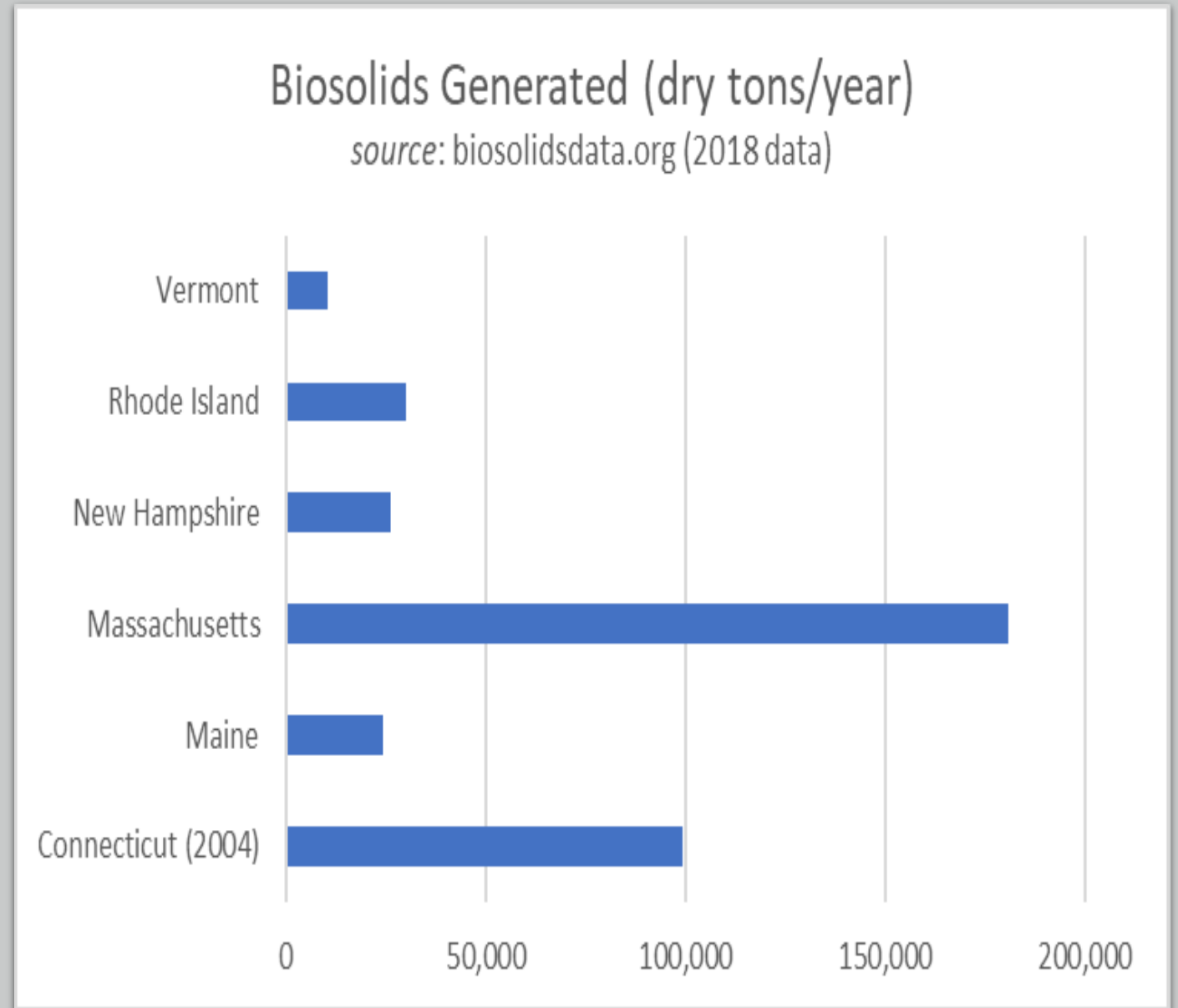


■ Agriculture  
■ Landfill Burial  
■ Class A  
■ Incineration  
■ Reclamation  
■ Surface Disposal

- ~ 69,000 dry tons per year
  - ~ 188 dry tons per day
  - ~ 37 additional 30-yard roll off trucking containers per day
- To manage that amount would require:
  - Three (3) new incinerators the size of Upper Blackstone
  - Siting two (2) new landfills the size of Chicopee
  - Finding more out-of-state options

# Regional Capacity Limitations

- Fewer incinerators; upcoming incinerator downtime should forecast the capacity issues to come
- Closing landfills
- Maine may no longer be an outlet
- If Massachusetts sets PFAS limits for residuals which are lower than other states like Vermont and New Hampshire, then Vermont and New Hampshire will no longer be outlets
- Regional Problem -- Regional Solutions?



# Big Picture Repercussions

- Climate Change impacts
- Massachusetts Solids Waste Master Plan goals
- Sending more food wastes to anaerobic digesters, will recover resources and reduce the volume ~50% but remaining solids still need to be “disposed”

**Example of BEAM\*2022 Output:  
Comparing Biosolids Management Options for a  
Large WRRF**

